# GEOGRAPHY EDUCATORS' NETWORK OF INDIANA

NEWSLETTER

Volume 105, Issue 2 Spring, 2005


*Inside this issue:*



## What's the Buzzzzzzzzzzzzzzzzzzzzzz?

Yes, it's BEE time again. April 1st will bring Indiana's top 100 qualifiers in the National Geographic Bee competition to Indianapolis for the State-Level competition, and that's no fool in'!

Although we are aware the first Friday in April is not a popular date among many participants because of Spring Break conflicts, the National Geographic stipulates that each state host this level of the competition on that day.

Students in grades four through eight who have survived their school competition and scored well on the written exam submitted to the National Geographic will battle it out for a chance at winning a new globe, a cash prize and an expense-paid trip to Washington D.C. in late May. The second and third place students also receive a globe and cash prize.

Thanks to donations from two local businesses, the final round of the Bee will be video-taped this year and air on public television stations at a latter date. DVD copies will also be available for purchase for the first time.

If you would like to see some young people knock your socks off with their geography knowledge, come join us on April 1! See pages 6 and 7 for a listing of the top qualifiers.

## Adventures in Africa: Research and Education in Mozambique

Dr. Rick Bein, Professor of Geography at IUPUI, is on Sabbatical at the University of Eduardo Mondlane in the city of Maputo, Mozambique in southern Africa. (See map on page 4) He is on a Fulbright Grant for research and teaching "Environmental Conservation and Geography, and Agricultural Adjustments to the Environment." He lives in faculty housing adjacent to the campus. Maputo is a city of one million and is located along the coastal in the southern most part of the country. Maputo has a climate similar to Miami, Florida while the rest of Mozambique extends northeast over 1200 miles

***Dr. Rick Bein with some village children seeing a picture of themselves on his digital camera. They have never even seen a photo of themselves.***

*(Continued on page 3)*

**Special Points of Interest:**

- **Top qualifiers for Indiana Geographic Bee**
- **Have your students communicate with Dr. Bein in Mozambique, Africa.**
- **Herff Jones acquires the George F. Cram Company**

# Calendar of Events:

- Mar. 11-13—**Weekend Workshop** to be held at Purdue University. See GENI website for announcement and registration information.
- Mar. 11—**Indiana Council for the Social Studies** Annual Conference at the Marten Hotel and Lilly Conference Center on the north side of Indianapolis. For details, visit www.bsu.edu/web/dcantu/icss.
- Mar.—**Bridges to the World Educational Fair** for Indiana Youth (grades 3-12), to be held at a variety of Indianapolis locations. For more information contact Cheryl Strain at (317)955-5150 ext. 230 or visit http://www.icenterindy.org/.
- Apr. 1—**Indiana State Geographic Bee** to be held at IUPUI, 10:00am—5:00pm. Contact the Bee Coordinator, Kathy Kozenski, for more details (317)274-8879, geni@iupui.edu.
- Apr. 5-9—**Association of American Geographers** Annual Meeting to be held in Denver, Colorado. Visit www.aag.org for more information.
- June 3-4—**GENI Long Range Planning Meeting** to be held at Taylor University. Contact the GENI office if you are interested in attending.
- July 10-23—**International Studies Summer Institute** at IU, See page 6 for details.
- Aug. 27—**GENI Advance Board Meeting** to be held at IUPUI's Cavanaugh Hall #438 from 8:30am to 3:00pm. All are welcome to attend!
- Oct. 14-15—GENI's annual **Fall GeoFest** to be held at Brown county State Park from 5:00pm Friday until 4:pm on Saturday.

# Resources:

- **Great Animations**—This website contains links which are organized alphabetically around the sequence of topics typically taught in an introductory earth science or physical geography class. Links are also available for environmental science, earth science/geography education, career opportunities, and more. The sites selected are based on image quality, ease with which lesson plans can be developed, organization, authenticity, scope, and format.

http://webs.cmich.edu/resgi/

- **All About Snow**—National Snow and Ice Data Center, this premier site offers general information about snow, as well as information on blizzards, ice storms, and avalanches.

http://nsidc.org/snow/index.html

- **How Volcanos Work**—San Diego State University, sponsored by NASA, anything and everything about volcanoes may be found here at the "How Volcanoes Work" website. Learn about eruption dynamics, volcanic landforms, types of eruptions and much more. There is a site index that makes it easy to find information about a particular volcano or a particular eruption. Also find excellent illustrations, photographs, and a Quicktime animation such of how an eruption takes place.

http://www.geology.sdsu.edu/how_volcanoes_work/

- Natural Hazards—This site offers a multitude of information, links, images, etc. on all types of natural hazards.

www.naturalhazards.org

- **INTO THE FUTURE-DINOSAUR FLOOR**, by NASA and Wheeling Jesuit University, the site is arranged in "floors" of a castle. Each floor contains links to different topics about the Earth. The "Dinosaur Floor" introduces different ideas about why the dinosaurs vanished, including the impact theory, changes in Earth's orbit, and disease as contributing factors. The Earth floor has student-friendly information about plate tectonics, geologic time, biomes and much more.

http://www.cotf.edu/ete/modules/msese/explorer.html

- **SHUTTLE RADAR TOPOGRAPHY**—University of Maryland, the Shuttle Radar Topography Mission (SRTM) archives remote sensing data for the entire globe. The SRTM was a sensor on a space shuttle in 2000 that collected 30m elevation data for the world (it is resampled to 90 m). The USGS has been processing the data ever since and there is now over 13 Terabytes available.

http://glcf.umiacs.umd.edu/index.shtml

- **Outline Maps**—The Arizona Geographic Alliance has a good selection of easily downloaded outline maps.

http://alliance.la.asu.edu/azga/

up the coast of Africa well into the tropics. Mozambique is about the size of California and is bordered by South Africa, Swaziland, Zimbabwe, Zambia, Malawi and Tanzania.

***In the photo the palms can be seen towering over the fruit trees, which in turn partially shade the cassava plants. The emerging squash plants capture the remaining sun light that reaches the ground.***

Dr. Bein is studying traditional agriculture and spends time with farmers learning why, how, when and where they plant, cultivate and harvest. He believes that these traditional farming systems have developed over many centuries and have survived because they are in balance with the environment. While these farmers survive for the most part outside of the money economy, they continue to subsist on what they produce. With globalization these systems could disappear and be taken over by commercial agriculture.

He is currently collaborating on the research of "four story agriculture" found in coastal Inhambani Province about 250 miles northeast of Maputo. Here, widely spaced coconut trees tower over scattered fruit trees which in turn shade annual plants like bananas and tapioca. On the ground, short season plants like peanuts, beans, corn, and vegetables dominate for a few months until a fallow period takes over for several years.

Developing a course in Ecotourism for the Forestry Department at the University of Eduardo Mondlane has provided Dr. Bein with a new challenge. He hopes that the content will balance the biological nature of the department with the social portion of the department. The medium of instruction is Portuguese, which Dr. Bein is fluent in.

Portuguese is the official language of Mozambique, although only 40% of the people speak it. Sixteen indigenous languages are also spoken. He is learning a bit of Shangan, the local language spoken in the south. "Kanimambo" means thank you; "anelave" = I don't need any; "asesequil" = Beautiful.

*"The Mozambicans are beautiful people, still recovering from decades of civil war ending 12 years ago. Starting from scratch, they are one of the fastest growing economies in the world and there is a feeling of hope. Still the poverty, beyond what any one in the USA can imagine, is endemic. It is one of the top countries for AIDS, infant mortality, and half the young women 15 to 20 are mothers or pregnant. Hope? Well they are starting so low; the only way is up. They just conducted a well run election and selected a new president who took over this February."*

Dr. Bein was one of the founders of the Geography Educators' Network of Indiana. He is always more than willing to help with geography in the K-12 classroom . While on this adventure of research and education in Africa, he extends an invitation for Indiana educators to bring their students along. He will be sending photos and activity updates to the GENI office where they will be uploaded to the GENI website at www.iupui.edu/~geni. Teachers and students can follow his travel and contact him directly via email with questions. He travels with a laptop computer and attempts to check email often, signal permitting. If you would like to contact Dr. Bein, simply write to him at rbein@iupui.edu. Go to the GENI website for additional information on Mozambique and several maps.

***The watering hole is often a chatty place. Women often walk 3 to 4 miles with 10-gallon containers on their head for their family's daily water supply. The water is used for cooking, drinking and bathing for the entire family.***

# A SNAPSHOT OF MOZAMBIQUE

***Geography:***

Mozambique stretches for 1,535 mi (2,470 km) along Africa's southeast coast. It is nearly twice the size of California. Tanzania is to the north; Malawi, Zambia, and Zimbabwe to the west; and South Africa and Swaziland to the south. The country is generally a low-lying plateau broken up by 25 sizable rivers that flow into the Indian Ocean. The largest is the Zambezi, which provides access to central Africa.

***Government:***

Multiparty republic.

***History:***

Bantu-speakers migrated to Mozambique in the first millennium, and Arab and Swahili traders settled the region thereafter. It was explored by Vasco da Gama in 1498, and first colonized by Portugal in 1505. By 1510, the Portuguese had control of all the former Arab sultanates on the east African coast. Portuguese colonial rule was repressive.

Guerrilla activity began in 1963 and became so effective by 1973 that Portugal was forced to dispatch 40,000 troops to fight the rebels. A cease-fire was signed in Sept. 1974, and after having been under Portuguese colonial rule for 470 years, Mozambique became independent on June 25, 1975. The first president, Samora Moises Machel, had been the head of the National Front for the Liberation of Mozambique (FRELIMO) in its ten-year guerrilla war for independence. He died in a plane crash in 1986 and was succeeded by his foreign minister, Joaquim Chissanó.


On Jan. 25, 1985, after a decade of independence, the government was locked in a paralyzing war with antigovernment guerrillas, the Mozambique National Resistance (MNR or Renamo), who were backed by the white minority government in South Africa. The guerrilla movement weakened President Chissanó's attempts to institute socialism, which he then decided to abandon in 1989. A new constitution was drafted calling for three branches of government and granting civil liberties. A cease-fire agreement was signed in Oct. 1992 between the government and the MNR, ending 16 years of civil war.

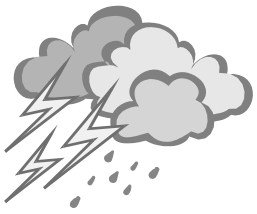
In multiparty elections in 1994 President Chissanó won. In Nov. 1995 the country was the first non-former British colony to become a member of the British Commonwealth. The president's disciplined economic plan was highly successful, winning the country foreign confidence and aid. While Mozambique posted some of the world's largest economic growth rates in the late 1990s, it has suffered enormous setbacks because of natural disaster—the enormous damage caused by severe flooding in the winters of 2000 and 2001. Hundreds have died and thousands were displaced.

In 2002 Chissanó announced he would not seek a third term in the 2004 presidential election. FRELIMO's candidate, independence hero Armando Guebuza, was elected president and sworn in on Feb. 2, 2005.

***Country Statistics:***

**National name:** República de Moçambique
**President:** Armando Guebuza (2005)
**Prime Minister:** Luisa Diogo (2004)
**Area:** 309,494 sq mi (801,590 sq km)
**Population (2004 est.):** 18,811,731 (growth rate: 1.2%); birth rate: 36.1/1000; infant mortality rate: 137.1/1000; life expectancy: 37.1; density per sq mi: 61
**Capital and largest city (2003 est.):** Maputo, 1,691,000 (metro. area), 1,114,000 (city proper)
**Monetary unit:** Metical
**Languages:** Portuguese (official), Bantu languages
**Ethnicity/race:** indigenous tribal groups 99.66%, Europeans 0.06%, Euro-Africans 0.2%, Indians 0.08%
**Religions:** indigenous beliefs 50%, Christian 30%, Islam 20%
**Literacy rate:** 48% (2003 est.)
**Economic summary: GDP/PPP** (2003 est.): $21.23 billion; per capita $1,200. **Real growth rate:** 7%. **Inflation:** 15.2% (2002 est.). **Unemployment:** 21% (1997 est.). **Arable land:** 4%. **Agriculture:** cotton, cashew nuts, sugarcane, tea, cassava (tapioca), corn, coconuts, sisal, citrus and tropical fruits, potatoes, sunflowers; beef, poultry. **Industries:** food, beverages, chemicals (fertilizer, soap, paints), aluminum, petroleum products, textiles, cement, glass, asbestos, tobacco. **Natural resources:** coal, titanium, natural gas, hydropower, tantalum, graphite. **Exports:** $795 million (f.o.b., 2003 est.): aluminum, prawns, cashews, cotton, sugar, citrus, timber; bulk electricity. **Imports:** $1.142 billion (f.o.b., 2003 est.): machinery and equipment, vehicles, fuel, chemicals, metal products, foodstuffs, textiles. **Major trading partners:** Belgium, South Africa, Germany, France, U.S., Australia, Japan, Malaysia.
**Transportation: Railways:** total: 3,123 km (2002). **Highways:** total: 30,400 km; paved: 5,685 km; unpaved: 24,715 km (1999 est.). **Waterways:** about 3,750 km of navigable routes. **Ports and harbors:** Beira, Inhambane, Maputo, Nacala, Pemba, Quelimane. **Airports:** 165 (2002).

*[Source: http://geography.about.com/library/maps/blmozambique.htm]*



# Is your school prepared for the possibility of severe weather this spring?

## Do your students know what to do when severe weather strikes and they are not at school?

**There are numerous resources on-line, including a publication from the National Weather Service, NOAA, FEMA, and the American Red Cross called "Thunderstorms… Tornados… Lightening… Natures's Most Violent Storms," found at www.nws.noaa.gov/om/brochures/ttl.pdf. This Preparedness Guide includes tornado safety information for schools along with how students can develop a family disaster plan at home.**

**Below, you will find a sampling of the extensive sites available from NOAA's Edcution Division at *http://www.education.noaa.gov/index.html*. They have additional sites specifically for children with fun, interactive activities.**

**A Guide to Developing a Severe Weather Emergency Plan for Schools** - this guide has been designed for schools, but it can be used by people who work in businesses, shopping malls, depots, hotels and hospitals. www.nws.noaa.gov/er/lwx/swep

**National Weather Service's Resources for Educators** - This page provides links to NWS National and Regional office education web pages and, if available, to your local NWS office's education outreach web page. It also provides links to demonstrations and projects which can be used by teachers; weather and oceanographic images; and the names of people in your area who can assist in weather and flooding education efforts.
www.nws.noaa.gov/om/edures.htm

**Educational Sources** - This page links teachers with an array of information from National Weather Service offices and others that focus on weather education. wchs.csc.noaa.gov/education_sources.htm

**Resource Listing for Weather and Climate Instruction** - This document is intended to assist those who teach weather and climate at any level from pre-school through introductory college level courses, by listing some of the available instructional resources. Teachers will find information about resources from the American Meteorological Society and Project Atmosphere including the formation of the Atmospheric Education Resource Agent (AERA) network, DataStreme, AAAS, the American Geological Institute, and others, with information about audiovisual materials, computer software, and data sources. www.nssl.noaa.gov/resources

**National Severe Storm Laboratory's Weather Room** - This page provides general information for kids, parents, and teachers. Elementary school coloring books are available for printing and use for weather education. There is information about tornadoes, hurricanes, lightning and thunderstorm, with weather lessons on the basic introduction to map analysis and interpretation, and information about weather careers. www.nssl.noaa.gov/edu

**Billy and Maria - Coloring Books for Kids - Weather** - These coloring books help kids learn more about weather safety during tornadoes, winter weather and thunderstorms.
www.nssl.noaa.gov/edu/bm/bm_main.html

**The National Weather Service Forecast Office-**
**Indianapolis:** http://www.crh.noaa.gov/ind/
**Chicago:** http://www.crh.noaa.gov/lot/
**Louisville**: http://www.crh.noaa.gov/lmk/

**Severe Weather Awareness Week PDF file for Indiana** can be found at the following address: http://www.crh.noaa.gov/ind/2005_severe_wx_awareness.pdf

# 102 Top Bee Qualifiers for 2005

Jordan Agan
Salem Middle School
Salem

Devin Ahern
North Clay Middle School
Brazil

Jonathan Anderson
Fort Wayne Area Home Schools
Fort Wayne

Davis Benson
Notre Dame
Michigan City

Andy Bernhard
Indian Springs Middle School
Columbia City

Paul Berning
Central Lutheran School
New Haven

Erik Blaford
Immanuel Lutheran
Seymour

Cody Bliss
Norvell Middle School
Ossian

Morgaran Bolt
St. Joseph County Homeschool
South Bend

Austin Bonta
Nativity of Our Savior
Portage

Arlan Brooks
Chesterton Middle School
Chesterton

Jennifer Brophy
University Elementary School
Bloomington

Ryan Burkart
Holy Rosary School
Evansville

Bobby Burkett
Our Lady of Mount Carmel
Carmel

Sarah Cahalan
Lincoln Middle School
Logansport

Ryan Carter
Argos Community Jr/Sr High
Argos

Pratik Cherian
White River Home Educators
Greenwood

Rastko Ciric
Highland Middle School
Highland

Greg Coulter
Westville Middle School
Westville

Jared Crocker
Batesville Middle School
Batesville

Kathyrn Curtis
St. Mary Catholic School
Avilla

Zachary Dahlgren
Thomas Jefferson MS
Valparaiso

Cody DeHart
Westside Catholic
Evansville

Michael Ehrstein
Morgan Township MS
Valparaiso

Nicholas Elmer
St. Maria Goretti
Westfield

Kyle Etienne
Heritage Hills Middle School
Lincoln City

Caleb Evans
Washington Junior High
Washington

Matthew Flaherty
Creekside Middle School
Fishers

Colten Fowler
Kokomo Christian School
Kokomo

Taylor Free
Adams Central Middle School
Monroe

Grant Frick
St. Peter Lutheran
Fort Wayne

John Gac
Hanover Central Jr/Sr. High
Cedar Lake

Chris Gagne
St. Mary's
Crown Point

Dmitri Gekhtman
Schmucker Middle School
Mishawaka

Joshua George
Bloomfield Junior High
Bloomfield

Kyle Gough
Westview Jr/Sr High
Topeka

Victor Gutwein
Rensselaer Central MS
Rensselaer

Alex Hearn
Sycamore School
Indianapolis

John Hensle
Lost Creek Elementary
Terre Haute

Emily Hogg
Grimmer Middle School
Schererville

Christopher Holcomb
Concord Junior High School
Elkhart

Jordan Hoover
St. Patrick School
Chesterton

Riley Hormann
St. John Lutheral School
Monroeville

Ryan Hughey
St. Jude Catholic School
Indianapolis

Dairen Jean
Bedford Middle School
Bedford

Andrew Johns
New Augusta North
Indianapolis

Matthew Johnston
Carmel Middle School
Carmel

Daniel Julius
Robert A Taft Middle School
Crown Point

Daniel Karr
Flint Lake Elementary
Valparaiso

Landon Kellogg
Madison-Grant Junior High
Fairmount

Daniel Kindervater
Center Grove MS Central
Greenwood

Josh Landers
Oolitic Middle School
Oolitic

Patrick Leary
Christ the King School
South Bend

John Lee
Northside Middle School
Columbus

Kevin Lee
Clay Middle School
Carmel

Thomas Lienhoop
Boston Middle School
LaPorte

# Bee Qualifiers Continued...



Corey Loescher
St. Bartholomew
Columbus

Nathan Lyons
Western Middle School
Russiaville

John Macke
St. Simon the Apostle
Indianapolis

Tyler Maggard
Seymour Middle School
Seymour

Bradley Mason
North Elementary
Washington

Tony Miller
Bethany Christian Middle School
Goshen

Lucas Moore
Heritage Middle School
Middlebury

Clinton Morris
WM W Borden Elementary
Borden

Noah Muller
Fall Creek Valley Middle School
Indianapolis

Jacob Myers
Willowcreek Middle School
Portage

David Myles
St. Patrick School
Terre Haute

Andy Noak
Trinity Lutheran School
Crown Point

Kaleb Noblett
Evansville Christian School
Evansville

Michael Ogden
Discovery Middle School
Granger

Peter O'Malley
Zion Lutheran Academy
Fort Wayne

Dirk Oudman
DeMotte Christian School
DeMotte

Andrew Parker
Seton Catholic
Richmond

Tyler Perfitt
Oak Hill Middle School
Evansville

James Pixey
Trinity Lutheran School
Elkhart

Trevor Poe
Highland Hills Middle School
Flyods Knobs

Nicholas Reineke
St. Paul School
Valparaiso

Jack Renner
Happy Hollow School
West Lafayette

Ross Rexing
St. James School
Haubstadt

Michael Rice
St. Michael School
Plymouth

Ryne Ring
Sullivan Junior High School
Sullivan

Stuart Robison
Brownstown Central MS
Brownstown

Angela Rooker
Ben Franklin Middle School
Valparaiso

Adam Roth
Park Tudor School
Indianapolis

Bryan Rust
Belzer Middle School
Indianapolis

Nicholas Sarengach
Southridge Elementary
Highland

Andrew Selfert
Doe Creek Middle School
New Palestine

Zachary Sherwood
Franklin Township MS
Indianapolis

Patrick Shirley
Griffith Middle School
Griffith

Michael Shook
Morgan Township Elemntary
Valparaiso

Nathaniel Simmons
International School of Indianpolis
Indianapolis

Zachary Stallard
Center Grove Middle School North
Greenwood

William Ternet
Northwood Middle School
Fort Wayne

Jarrett Tomey
East Jay Middle School
Portland

Chris Waldon
West Middle School
Martinsville

Austin Walker
Fountain Central Jr/Sr High
Veedersburg

Emily Watkins
Tri-North Middle School
Bloomington

Aaron Webb
Riverview
Huntington

William Weitzel
Evansville Day School
Evansville

Matt Werner
Ohio County Elem/Middle School
Rising Sun

Michael Wilson
Christian Academy of Indiana
New Albany

Stephan Zajac
Wilbur Wright Middle School
Munster

# OIL SPILLS

**Teaching Level**
Suggested grades 2-7

**Purpose**
To demonstrate an activity involving hands-on experience of the real life problems of an oil spill, students will better comprehend the results and impacts (both short term and long range) of an oil spill.

**Geographic Themes**
The two themes of movement and human-environment interaction will be stressed during this activity.

**Objectives:** Upon completion of this activity, students will be able to:
- identify the problems caused by an oil spill through a simulated activity,
- describe through research potential solutions to the problems caused by an oil spill and to the cause of an oil spill,
- feel a sense of ownership for their simulated oceans,
- better understand the difficulty in cleaning up an oil spill, and
- better understand the vast array of damage committed by an oil spill.

**Materials Required**

| | | | |
|---|---|---|---|
| - plastic tubs | - sponges | - dish soap (detergent) | - plastic gloves |
| - moss and plants | - newspapers | - plastic spoons | - clay |
| - rocks | - cupcake liners | - black garbage bags | - aluminum foil |
| - pieces of gauze | - cotton balls | - piece of brown paper bag | |
| - pipecleaners (for animals) | - string | - oil (preferably, use black motor oil) | |

**Procedure**
1. Place students into groups of four. Discuss with them that they will be creating an ocean/shore environment using the rocks, small plants, moss, pipe-cleaner animals,... Most of the environment should be on top of the rocks so the rest of the tub can be used to simulate an ocean or lake. Encourage students to bring non-valuable items from home. The students may choose to make small boats, rafts, people,... to enhance their new world. Allow the students to display their environments for a few days promoting a sense of ownership and pride. You may choose not to inform the students that an oil spill will be occurring in their new environment; this is part of the surprise element of this lesson.
2. After a few days in which students compare, observe and complete their new environments, the teacher will fill cupcake liners with approximately 1-2 ounces of oil. Place the holders into the water of each tub. This "barge" of oil will "accidentally" have a spill **BY THE TEACHER**.
3. Now have the students, as members of an environmental cleanup crew, attempt to clean up the oil that has blackened their environment. At this point, students are given garbage bags with holes in the bottom and sides; the bags will function as cleanup gear to protect them from the oil. Each student should make herself/himself an "Environmental Cleanup Crew" badge and should wear a pair of plastic gloves. The tables that they are to work on should be covered with newspaper.
4. Give each group a copy of the "Effectiveness Chart" that follows; let the students speculate as to how they should clean up the mess. Students are to predict and test results according to the chart.
5. Have students complete the chart and follow-up questions. Each student should write a one-page essay about how they would approach the clean-up if they were in charge. Also, have students investigate alternative energy sources and the problems associated with these. Such investigations might include contacts with environmental agencies and guest speakers from energy companies.

**Evaluation**
Student participation and cooperation, as well as, group "Effectiveness Chart" work, individual essay work and alternative energy sources reporting.

**Extensions/Adaptations**
Instead of having several ocean environments, there could be just one for the entire class. The recycling of the oil that is used in this experiment is just as important a part of this lesson as the oil spill. The students need to understand that

oil is to be disposed of properly. They can strain the oil into containers and carry it to a local gas station that recycles oil. Ask students to discuss with their parents how they dispose of oil and to discuss with the gas station personnel how they dispose of the oil.

**Additional Reference/Resource Materials**

National Fisherman, "The Exxon Valdez Spill: One Year Later"; July, 1990.
National Geographic, "Alaska's Big Spill"; January, 1990.
Newsweek, "Environmental Politics"; April 17, 1989.
Outside, "A Clot in the Heart of the Earth"; Grant Sims, June, 1989.
Time, "The Two Alaskas"; April 17, 1989.
U.S. News & World Report, "Alaska's Oil Spill"; September, 1989.
Water Pollution by Oil; Institute of Petroleum, 61 New Cavendish Street, London Wim8AR, ENGLAND, 1971.
Nova's "The Big Spill"; aired on 2/27/1990; for a transcript, send $5.00 to Journal Graphics Inc., 267 Broadway, New York, NY 10007.
Nova's "The Black Tide" (about the wreck of the Amoco Cadiz).

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## EFFECTIVENESS CHART

Crew:_____

| | |
|---|---|
| Most Effective | 3 |
| Effective | 2 |
| Moderately Effective | 1 |
| Not Effective | 0 |

Test various materials for their effectiveness in cleaning up an oil spill.

1. Rate your predicted effectiveness of each material.
2. Test and rate the effectiveness of each material.

| Materials | Predicted Rating | Test Results |
|---|---|---|

1. What material was most effective? (Can be more than one.)

2. What happened to the oil when the ocean got stormy?

3. What dangerous effects does the oil have on wildlife?

4. How would you solve this problem?

# NBA or IBA?: International Players in the National Basketball Association

*By Michael Baron, Arizona Geographic Alliance* (adapted)

**Grade Level:** 6-8

**Time:** 1 class period

**Purpose:**
The National Basketball Assocation is increasingly being staffed by players from around the world. Find out which countries send their players and what teams they play for. Through mapping, students will discover the national origins of NBA players and learn what teams are most open to international players.

**National Geography Standards:**
Standard 1, 3, 9 and 18

**Materials:**
Blank World map (GENI website under lesson plans), United States map with states outlined and NBA cities (attached), Downloadable pages from official NBA website on international players, Color pencils, Student atlases

**Objectives:** The student will be able to…
- locate and indicate on maps some of the various countries of the world, various states of the United States and major cities in the U.S.
- generalize from the mapped data about countries that send NBA players to the U.S. and about which NBA teams seem to be most open to scouting and hiring international players.

**Procedures:**
1. To assess students existing knowledge of international players in the NBA, ask them to identify players that they know are definitely from other countries.
2. After passing out materials, go over the NBA website Player sheet (http://www.nba.com/players/international_player_directory.html) player by player and have students color in each country from which a foreign player comes. Students may need to refer to an atlas, textbook reference section or wall map.
3. For each player, have the students put a tick mark next to the NBA city for which they play.
4. As the exercise proceeds, the students will encounter countries that have multiple players in the NBA. Students may wish to use a tick system to keep track of how many players are in the NBA.
5. When the class has gone through all of the players on the list, have the students singly or in small groups try to generalize about which foreign countries have the most players in the NBA and why. Conversely, why do so many countries have no NBA players.
6. Do the same sort of generalizations on which NBA teams have the most international players and speculate on why that might be. Conversely, which teams have none and why?

**Outcome and Student Assessment:**
Students will realize the international dimensions of professional sports and how that interfaces with the geographic theme of movement. They will also develop mapping skills and knowledge of locations. Assessment consists of two parts. The first is to collect and grade both of the maps they produce for accuracy. The second is to compare their initial knowledge of foreign players with an oral quiz in which students give a ballpark estimate of the number of international players.

**Extensions:**
Students could do internet research on other popular team sports and compare their results to baseball, football, or soccer. Students could also research home towns of US NBA players.

**Sources:**
http://www.nba.com/players/international_player_directory.html

***Note: the player rosters are extremely fluid in the NBA and this site should be consulted before every use of this lesson.***

# Population Pyramids

***By Melissa Martin***

**Grade Level:** 6-12

**Indiana Social Studies Standards:**
6.3.3; 6.3.9; 7.3.4; 7.3.11; WG.1.5; WG.4.1; WG.6.11

**Objectives:** Students will ...
1. be able to analyze a population pyramid.
2. be able to construct a population pyramid for a given country.
3. be able to locate specific countries and regions according to population pyramids.

**Materials:**
- Copy of the chart "Three Patterns of Population Change," attached or full-size from website
- copy of blank population pyramid graph sheet, attached [also, electronic version available on the GENI website at www.iupui.edu/~geni]
- copy of population pyramid data table [http://www.prb.org/Content/NavigationMenu/PRB/Educators/LessonPlans/Pyramid_Building__Data_Table.htm]
- copy of teacher's key to the population pyramid data table [http://www.prb.org/Content/NavigationMenu/PRB/Educators/LessonPlans/Pyramid_Building__Data_Table_Key1.htm]
- sample pyramids [http://www.census.gov/ipc/www/idbpyr.html This page allows you to obtain a population pyramid for any country.]
- World map or overhead world map
- colored pencils

**Procedures:**
1. Discuss the importance of understanding the population and population growth. (possibilities: food shortage, space, medical needs,...)
2. Show the chart "Three Patterns of Population Change". Concentrate on the U. S. pyramid first. Explain the structure of a population pyramid... age groups (y-axis), males/females, and percentages (x-axis). Be sure to point out that males are always represented on the left and females on the right.
3. Once the students understand the structure, continue by interpreting the pyramid. What does the pyramid tell us about a country's past? (famine, war, "baby boom", epidemics, government population controls implemented....)
4. Next, discuss the remaining two pyramids, Democratic Republic of Congo and Germany. Interpret these two pyramids the same as the United States. Explain the difference between zero growth, slow growth, and rapid growth. [Note, all three pyramids can be obtained separately at the following website, ***http://www.census.gov/ipc/www/idbpyr.html***, if you would like to present them individually as well.]
5. After the students have studied all three, have them point out the differences among the three pyramids. (biggest difference will be the base of the pyramid)
6. Explain that each student will now create their own pyramid for a mystery country. Distribute the blank pyramid graphs and have the students choose a data table and create their population pyramid. Students should choose two different colors, one to represent males and one to represent females.
7. Once the students are finished, have them group themselves into three groups... zero, slow, and rapid growth.
8. When the groups are formed, determine on which continents their country would be located.
9. Share the correct locations for each data set/pyramid and have students label or mark where their country in located on a world map (wall or overhead map).
10. Tally, by continent, the three types of growth.
11. Conclude by discussing why some continents might have many countries with rapid growth, while others might have predominantly slow or zero growth. Also, why governments should be concerned with population growth and what are some ways to limit the growth of the population.

**Evaluation:**

- Population pyramid for mystery country and classification as to type of growth (zero, slow, rapid)
- Quiz: map portion identifying countries analyzed, explanation of three types of growth with examples of each, discussion questions on how population pyramids reveal past events and help plan for the future.

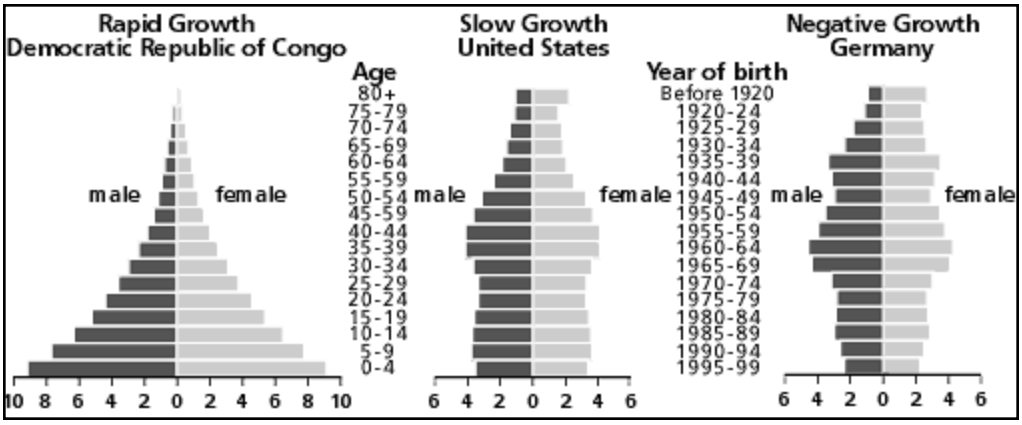
**Extensions:**

- Choose the population data based on course goals/standards. For example, if the course concentration is on Asia and Africa, choose the data/pyramids for those countries.
- Focus just on the United states. Expand discussion on the pyramid for the country and then look at pyramids for regions or cities around the country. Tie directly to related historical events in the US.

**Resources:**

http://www.populationeducation.org/index.jsp
http://www.census.gov/ipc/www/idbpyr.html
http://www.statcan.ca/english/kits/animat/pyone.htm
http://www.nationalgeographic.com/xpeditions/lessons/09/g68/pyramids.html
http://www.ac.wwu.edu/~stephan/Animation/pyramid.html
http://www.prb.org/Content/NavigationMenu/PRB/Educators/Human_Population/Change/Three_Patterns_of_Population_Change1.htm

## THREE PATTERNS OF POPULATION CHANGE




Aside from the total size, the most important demographic characteristic of a population is its age and sex structure, or the proportion of people at each age, by sex. The age-sex structure determines potential for future growth of specific age groups, as well as the total population. For these reasons, the age structure has significant government policy implications. A population of young people needs a sufficient number of schools and, later, enough jobs to accommodate them. Countries with a large proportion of older people must develop retirement systems and medical facilities to serve them. Therefore, as a population ages, needs change from childcare and schools to jobs, housing, and medical care.

The age-sex structure of a country can be studied through population pyramids. The overall shape of the pyramid indicates the potential for future growth. The four representations of population age-sex structure provide an overall example of what a pyramid for different levels of population growth would look like — rapid growth, slow growth, zero growth, and negative growth. The horizontal bars show the percentage (or in some cases the actual numbers) of males and females in each age group.

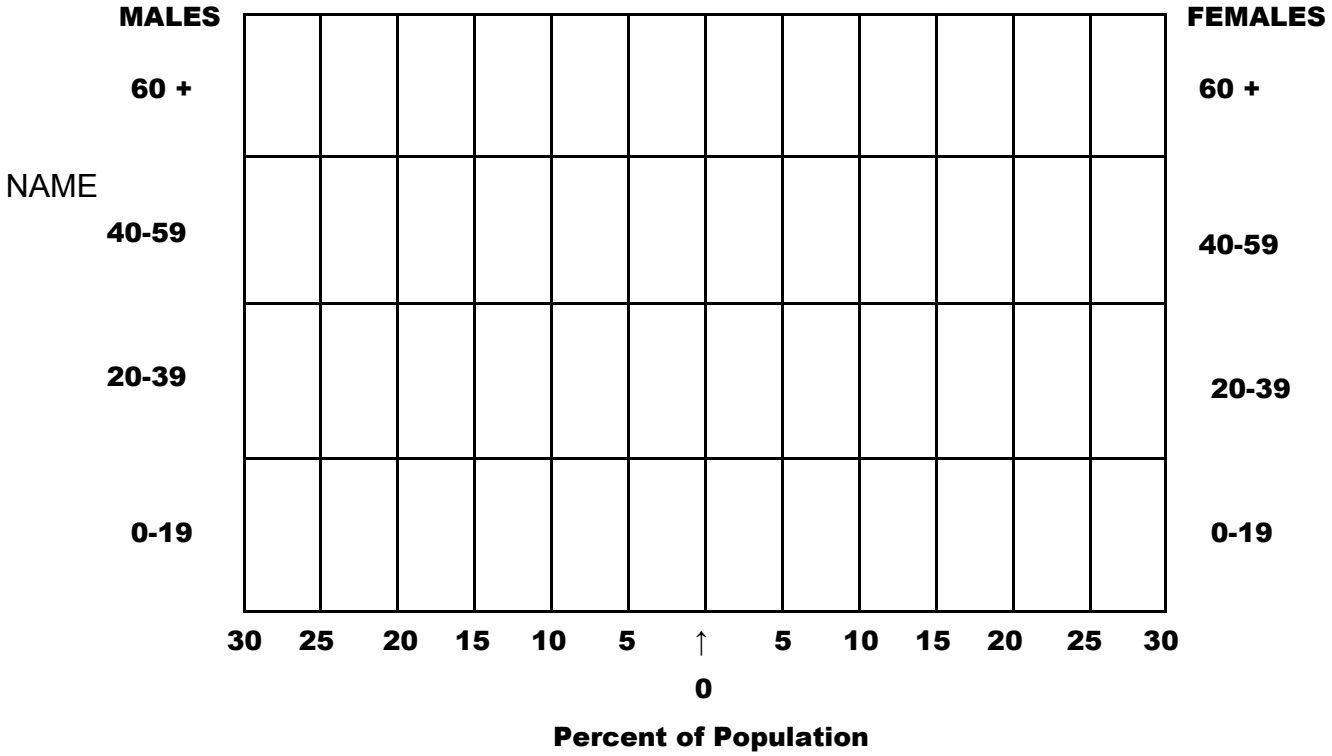
***Zero Growth*** - the population of a country is evenly distributed throughout the age groups and the number of births equal the number of deaths; therefore, the population is not growing. (This is called zero population growth...zpg )

***Slow Growth*** - the population of a country is fairly evenly distributed with a relatively small base.

***Rapid Growth*** - the population of a country is growing at a very fast rate. This is usually indicated by a very broad base. A large percentage of the population is young (0-19).

NAME_____CLASS_____

## MODIFIED POPULATION PYRAMID FOR _____




1. Use the data table given to create a population pyramid for your country. Each row represents a different age group for males and females. Be sure to use different colors to represent the statistics for males and females.
2. How would you classify the type of population growth for your country? (zero, slow or rapid)

   _____
3. What continent might your country be found on?

   _____
4. Summarize the population of your country. Include ideas as to what could have created this type of structure.

   _____

   _____

   _____
5. When you know the name of your country, fill it in on the line above your chart.

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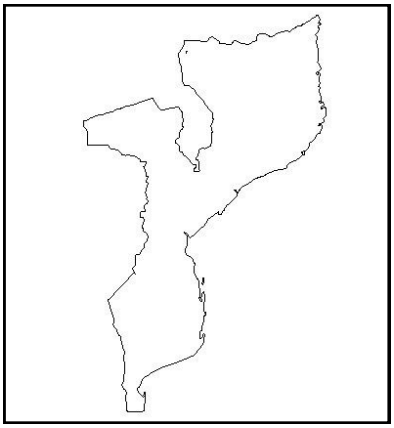
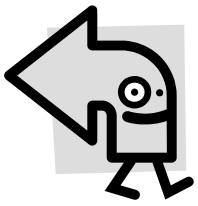
# State-Level Geography Bee
# April 1 - IUPUI

**Top qualifiers for state-level competition listed inside!**





**Can you name this country? What continent can it be found on? Is it coastal? Landlocked?**

***(See page one for the answer. Discover who is currently doing research in this country and how your students can communicate directly with him.)***